

CLAIMS:

1-60. (Cancelled).

61. (Currently Amended) A method for preparing a solid pure metal conductor on a substrate comprising the steps of

(a) mixing a reactive organic medium comprising organic coated metallic nanoparticles, a metal flake ~~powder~~, and a cure temperature lowering agent;

(b) applying the mixture formed in step (a) onto the substrate; and

(c) heating the substrate at a critical temperature less than 200°C for a time less than about 30 minutes;

Wherein the applied mixture is converted into a consolidated pure metal conductor and wherein the cure temperature lowering agent is a polymer selected from polyvinylidene chloride, polyvinyl chloride, polyethylene vinyl chloride, or copolymers thereof.

62. (Cancelled).

63. (Previously Presented) The method of claim 61, wherein the metal is silver.

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64. (Previously Presented) The method of claim 61, further comprising roll milling the mixture to produce a homogeneous composition.

65. (Previously Presented) The method of claim 61, wherein the metallic nanoparticles are present in an amount of from 10 to 80% by weight.

66. (Previously Presented) The method of claim 61, wherein the cure temperature lowering agent is present in an amount of from 0.5 to 8% by weight.

67. (Previously Presented) The method of claim 61, wherein the nanoparticles have an average size of from 40 to 100 nm.

68. (Previously Presented) The method of claim 61, further comprising mixing a metal flake with the reactive organic medium and the cure temperature lowering agent.

69. (Previously Presented) The method of claim 61, wherein the metal flake is silver.

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70. (Previously Presented) The method of claim 61, wherein the metal flake is present in an amount of from 10 to 60% by weight.

71. (Previously Presented) The method of claim 61, wherein the metal flake has an average particle size of from 3 to 12 μ m.

72. (Previously Presented) The method of claim 61, wherein the mixture is applied by printing.

73. (Previously Presented) The method of claim 72, wherein the printing technique is selected from screen printing, rotary screen printing, gravure printing, intaglio printing, flexographic printing, letterpress printing, lithographic printing, ink jet printing or electrostatic printing.

74. (Previously Presented) The method of claim 61, wherein the temperature is between 120°C and 150°C.

75. (Previously Presented) The method of claim 61, wherein the substrate is selected from polyester, polyimide, epoxy or paper.